CEC TURNTABLE

Service Manual

BD-2200

CEC International Inc.

CONTENTS

1. TECHNICAL SPECIFICATIONS 1
2. DISASSEMBLY INSTRUCTIONS 2
3. ADJUSTMENTS
   - 3-1 TOOLS REQUIRED FOR ADJUSTMENTS .. 2
   - 3-2 TURNTABLE HEIGHT AND LEVEL 3
   - 3-3 STYLUS POINT HEIGHT 3
4. PARTS REPLACEMENT 3
5. EXPLODED VIEW
   - 5-1 MECHANISM 4
   - 5-2 PACKING 6
   - 5-3 CABINET 6
   - 5-4 ACCESSORY PARTS 6
   - 5-5 WIRINGS 6
6. TROUBLESHOOTING 7
7. PARTS LIST 8

Model	Destination
A	USA (UL Approval)
C	Canada (CSA Approval)
E	Europe (Scandinavian Approval)
G	General territories

TECHNICAL SPECIFICATIONS

Description	Condition	Nominal	Limit
Type		2-speed, belt drive	
Platter		Aluminum alloy die-cast, 30.2 cm outer diameter	30 cm outer diameter
Motor		4-pole synchronous	
Speed		2-speeds: 33-1/3 rpm, 45 rpm	32.9 – 33.7 rpm 44.4 – 45.6 rpm
S/N ratio	Measured at 3 kHz signal DIN 45539A DIN 45539B	38 dB 60 dB	35 dB 55 dB
Wow & Flutter	Measured at 3 kHz signal DIN 45507	0.07% WRMS 0.1%	0.08% WRMS 0.12%
Tone arm		Plug-in type, tubular	
Headshell		300 mm	
Overall length		215 mm	
Effective length		15 mm	
Overhang		0 to 4.0g/l turn of the scale ring (directly readable in 0.5g steps)	
Adjustable force range		4 to 12 g	
Acceptable cartridge weight		MC-5L Moving Magnet type.	
Cartridge (Model G)		20 – 20,000 Hz	
Frequency response		4.0 mV at 1 kHz 50 mm/sec.	3.0 – 8.0 mV at TRS-1004 record
Output voltage			
Channel difference		2 dB at 1 kHz	
Channel separation		18 dB at 1 kHz	16 dB at 1 kHz at TTR-102 record
Tracking force		2 grams	
Stylus tip		0.6 mil diamond stylus	
Power source	Model A and C Model E Model G	117 Volts, 60 Hz AC 220 Volts, 50 Hz AC 117/220 Volts switchable 50 Hz with 60 Hz pulley.	
Power consumption		10 watts	
Dimension		139(H) x 458(W) x 337(D) mm	
Weight		6.0 kg (Net)	

DISASSEMBLY INSTRUCTIONS

1. TOOLS REQUIRED FOR DISASSEMBLY

Phillips-head screwdrivers (for M5 and M3)
Slotted-head screwdrivers (medium and small sizes)
Radio pliers
Nippers
Soldering iron
Hexagon box type screwdrivers (for M5 and M3)

2. DO THE FOLLOWING PRIOR TO DISASSEMBLY:

(1) Remove the dust cover.
(2) Remove the turntable and prepare the unit to be moved by locking the motor and mechanism in place with the four red screws.
(3) Fix the tone arm in place with the lock lever of the arm rest.
(4) Place the set on a suitable bench with the bottom base upward. (Fig. 1)

3. REMOVE THE SUB-CHASSIS FROM THE UNIT.

(1) Remove with a Phillips-head screwdriver the eight screws which hold the bottom base. (Fig. 2).
(2) Remove the arm support.
(3) Pull out the speed change lever and cueing (lifter) lever.
(4) Remove the four red screws.
(5) Remove the shield case.
(6) Disconnect from the lug terminal plate the five leads coming from the tone arm.
(7) Loosen the screw of the switch arm. Remove the tone arm fixing nut and remove the tone arm.
(8) Remove the terminal angle A from the cabinet.
(9) Remove the two screws which hold the cord mounting plate of the cabinet (Fig. 3).
(10) Remove the arm rest fixing nut. And pull out the arm rest.
(11) Turn the set over and remove nuts C shown in Fig. 4.
(12) Remove the suspension spring and cushion rubber.
(13) Disconnect the release wire from the lifter base (Fig. 5).
(14) Hold the turntable shaft and lift, and remove the sub-chassis.

4. REMOVE THE MOTOR MOUNTING PLATE.

(1) Remove the two screws A shown in Fig. 4 and pull out the speed change lever.
(2) Remove the three E type washers B shown in Fig. 4 from the bottom of the cabinet.

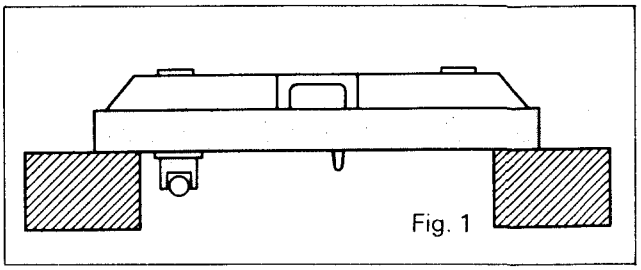


Fig. 1

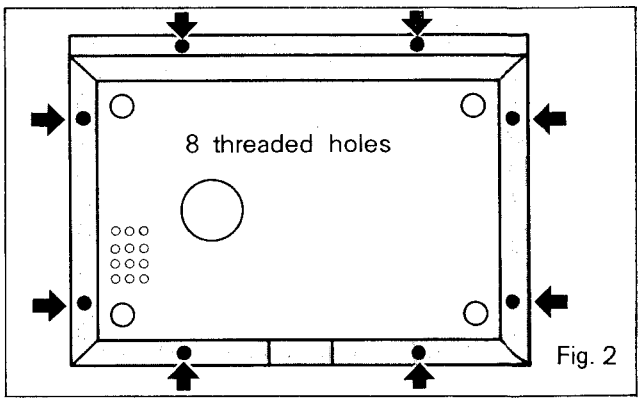


Fig. 2

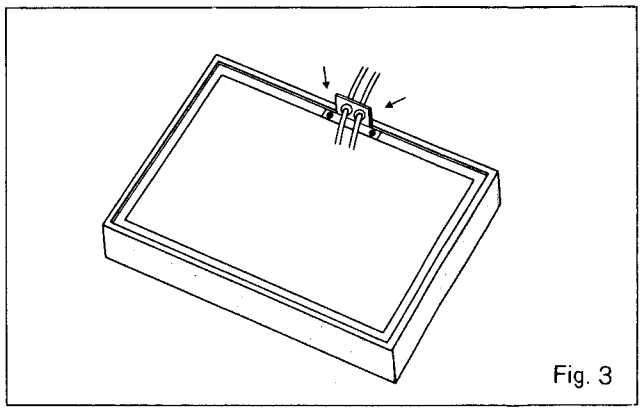


Fig. 3

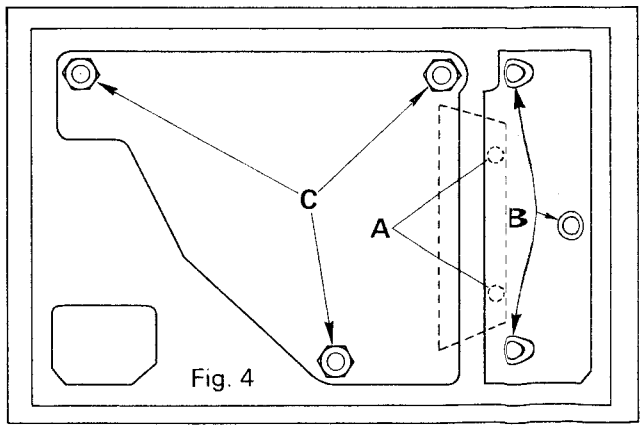


Fig. 4

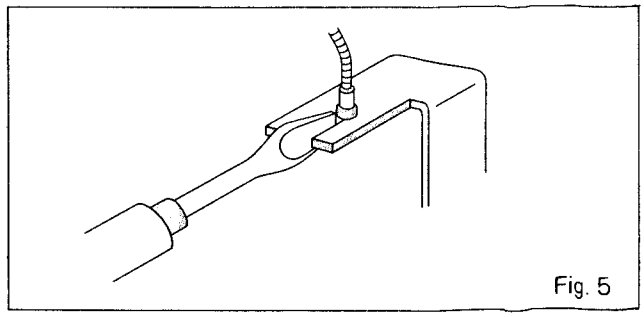


Fig. 5

ADJUSTMENTS

1. TOOLS REQUIRED FOR ADJUSTMENTS

Small level indicator
Hexagon box type screwdriver (M5 and M4)
Phillips-head screwdriver (M3)
Slotted-head screwdrivers (M3 and smaller size)

Note: Be sure to set the bench for adjustment level.

2. TURNTABLE HEIGHT AND LEVEL

(1) Place the set with the bottom base removed on a stable table, set the turntable, the turntable sheet and a record, and adjust the height and level of the turntable with the nuts **C** in Fig. 4 to the dimensions shown in Fig. 6.

Note: Since the four points are slightly different in height due to cabinet distortion, etc., be sure to adjust the turntable to the required level.

(2) After height adjustment, put a level indicator on the turntable, turn the nuts **C**, and adjust the level of the turntable. Adjusted turntable height should be within a range of 20.5 ±1.0 mm.

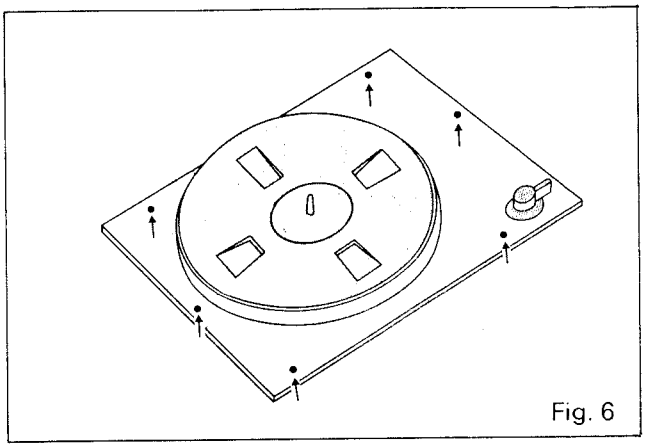


Fig. 6

3. STYLUS POINT HEIGHT

(1) Set the cueing (lifter) lever to the ▼ position.
(2) Turn the adjusting screw as described in Fig. 7 so that the height from the record surface to the stylus point conforms to the dimensions of 5∼10 mm.

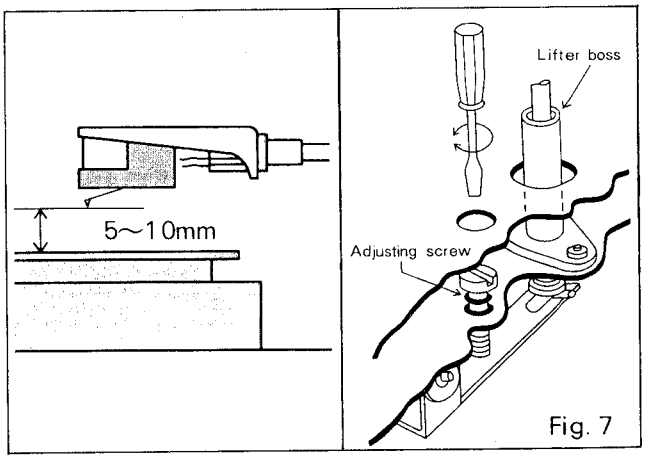


Fig. 7

PARTS REPLACEMENT

1. TONE ARM

Remove tone arm referring to DISASSEMBLY INSTRUCTIONS, 3. step (1) to (8) and replace. To reassemble, use DISASEMBLY INSTRUCTIONS in reverse. Adjust the tone arm referring to ADJUSTMENTS, 3.

2. MOTOR

Remove bottom base in accordance with DISASSEMBLY INSTRUCTIONS, 3. Cut the nearest portion of primary wire to lug terminal. Place the unit on a bench with the surface upward and remove the four screws which mount the motor. Replace the new motor and fasten it by screws. After binding the primary wires to lug terminal tightly and solder them.

3. CUEING (LIFTER SHAFT)

Remove lifter base ⑮, and remove tone arm support ㉕ from lifter shaft. Pull out the lifter shaft in the direction of downward. Replace new lifter shaft after adhering 10^5 CS silicon oil. After finishing reassembling, be sure to check the gap between stylus point and record surface referring to ADJUSTMENTS, 3. (Fig. 8)

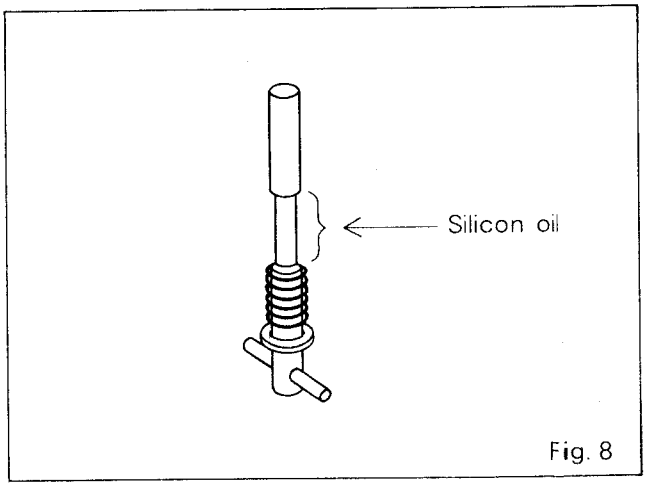


Fig. 8

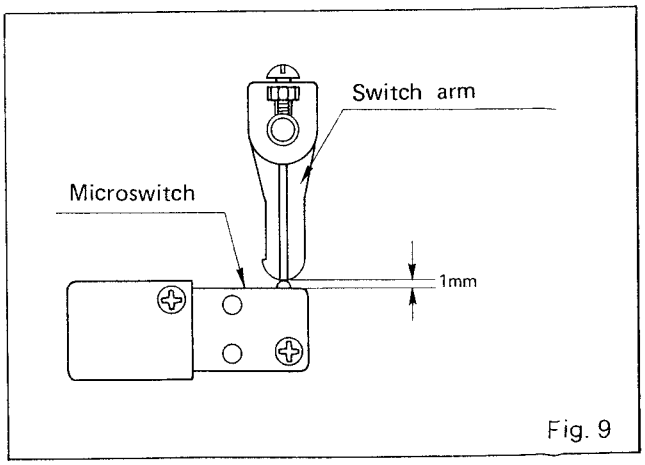
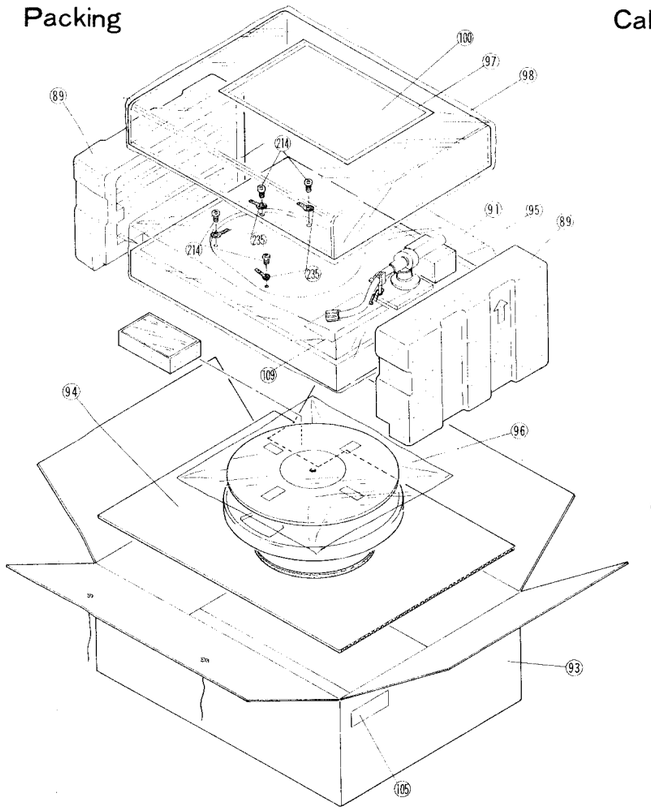
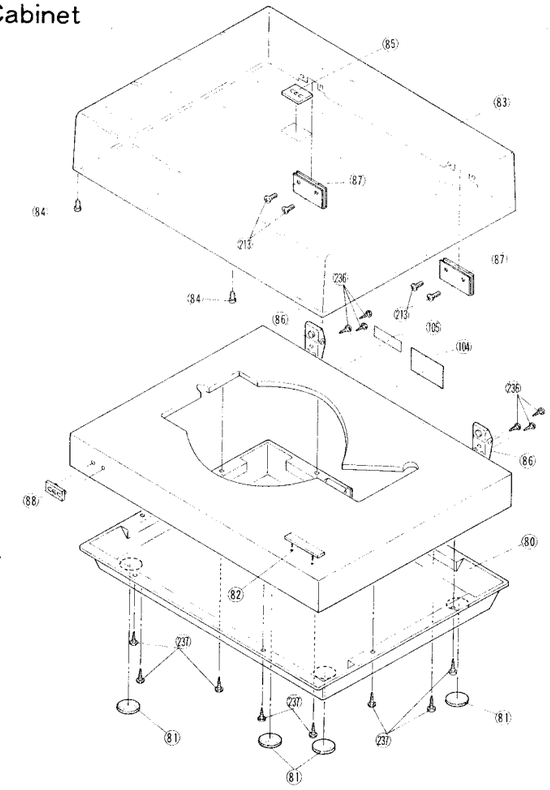


Fig. 9

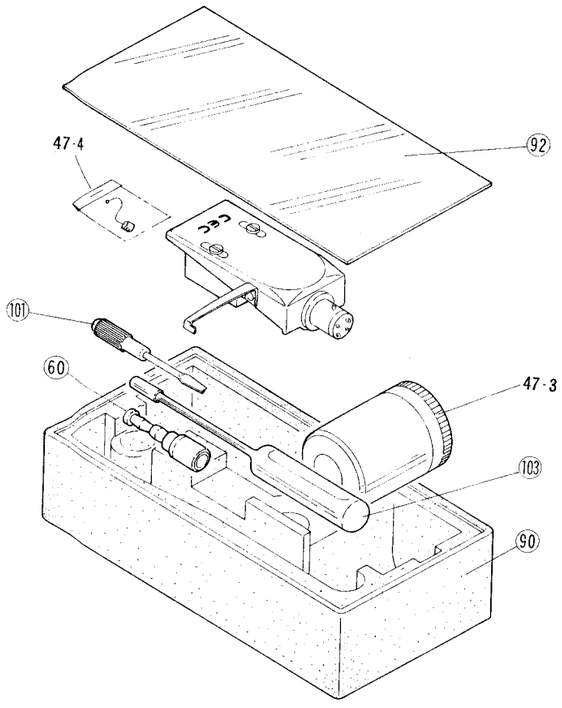
Packing



Cabinet

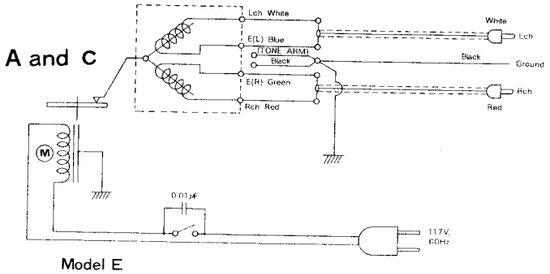


Accessory Parts

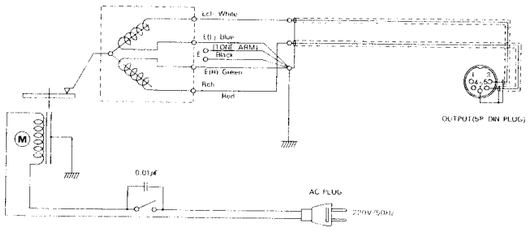


Wirings

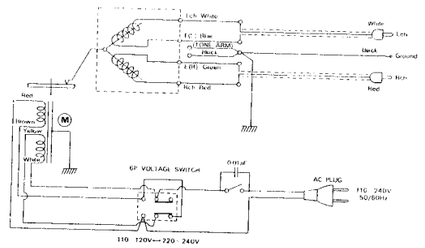
Model A and C



Model E



Model G



TROUBLE SHOOTING

1. The turntable platter will not rotate even though the tone arm is above the record.

Check to see that the power plug is securely connected.
- No: Connect the plug.
- Yes: Check to see that the belt is in place on the pulley.
  - No: Fit the belt.
  - Yes: Check the voltage supplied to motor.
    - No: Motor defective → Replace the motor.
    - Yes: Check the wiring.
      - No: Replace wiring according to the circuit diagram.
      - Yes: Check the microswitch.
        - No: Microswitch defective.
        - Yes: Lead wires defective.

2. The turntable platter will not stop rotating.

Check to see if the turntable will stop rotating when knob of microswitch is sufficiently pushed.
- Yes: Adjust the clearance between the knob of microswitch and tip of switch arm to 1 mm. (Fig. 9)
- No: Check the wiring.
  - No: Replace wiring according to the circuit diagram.
  - Yes: Check the microswitch.
    - No: Microswitch defective.
    - Yes: Capacitor defective.

3. The turntable platter turns at incorrect speed.

Check to see that the supply voltage and frequency are correct for this unit.
- No: Change the motor and/or pulley according to input condition.
- Yes: Check to see that the motor fixing screws (red color) are removed.
  - No: Remove them.
  - Yes: Check the pulley. (Fig. 10: 50 Hz pulley has no band; 60 Hz pulley has a band)
    - No: Replace the pulley.
    - Yes: Check the position of belt guide, pulley and belt. (Fig. 10)
      - No: Adjust the position of pulley.
      - Yes: Motor defective.

4. Noise from turntable.

Check for noise with turntable platter removed.
- Yes: Check motor.
- No: Check for noise when turntable platter is moved by hand after the rubber belt is removed.
  - No: Check the position of belt guide, pulley and belt → Adjust the height of pulley
  - Yes: Turntable bearing/shaft is defective.

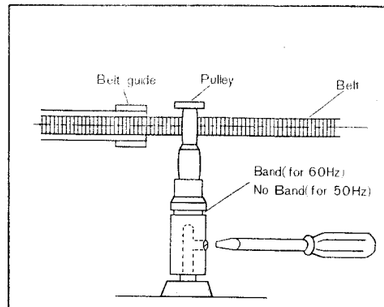
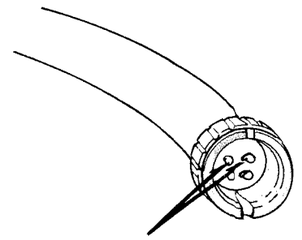


Fig. 10



Connection pin

Fig. 11

5. No sound from the speaker.

Check to see that the output cords are securely connected to the amplifier (receiver).
- No: Connect the cord.
- Yes: Check to see that connections are made to the PHONO input terminals of the amplifier.
  - No: Connect to PHONO.
  - Yes: Check to see that the select switch of the amplifier is placed to PHONO.
    - No: Place select switch to PHONO.
    - Yes: Remove the headshell, touch the upper two pins at the end of the arm with a metal screwdriver and listen for the speaker to produce a humming noise. (Fig. 11)
      - No: Perform continuity test between the arm and output cords.
      - Yes: Check the connections between the cartridge and headshell.
        - No: Make correct connections.
        - Yes: Cartridge defective.

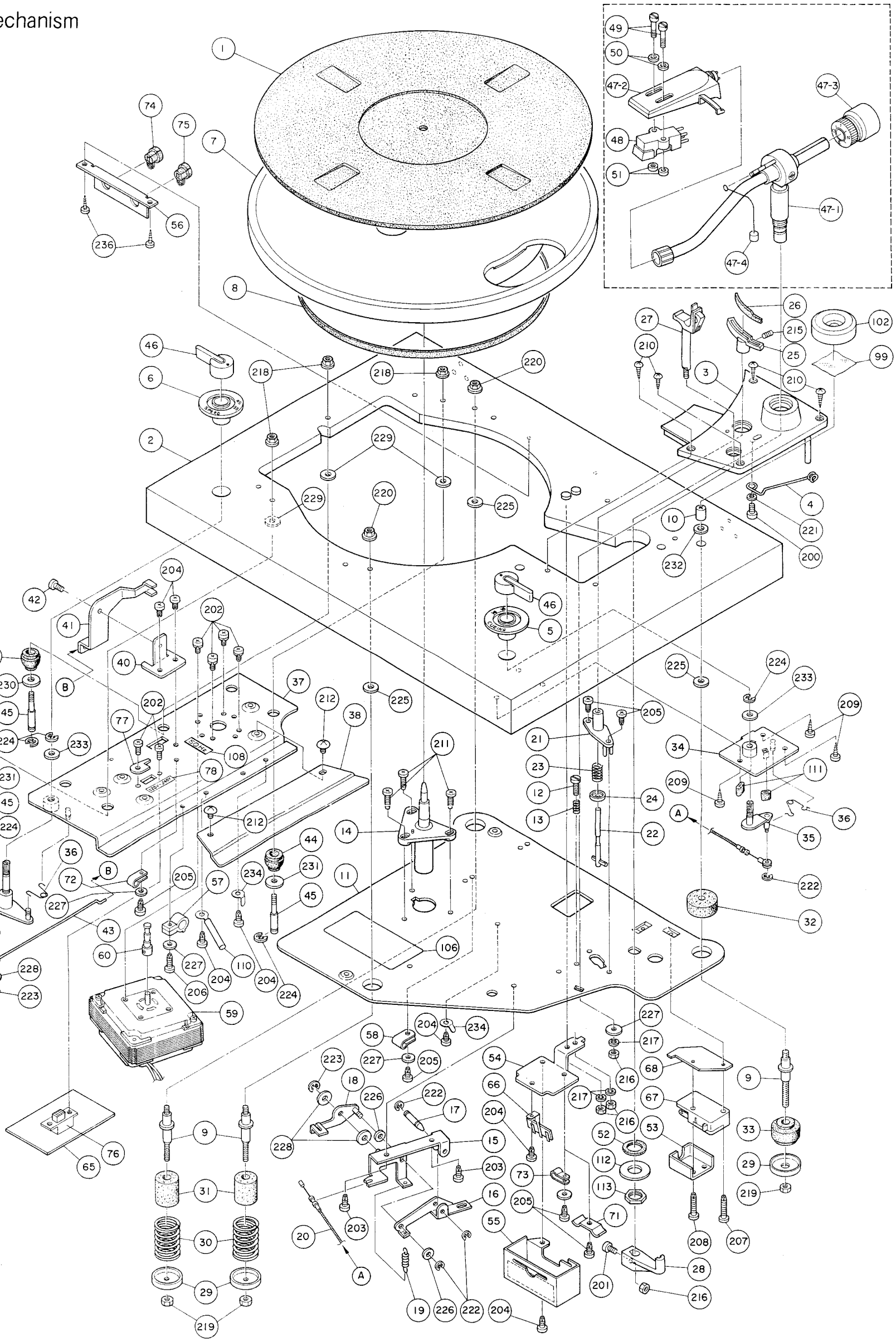
6. The tone arm will not go down even with the lifter lever in ▼ position.

Check to see that release assy moves to cooperate with operating plate assy when the lifter lever A is pushed down.
- No: The release is defective.
- Yes: Check to see that the lifter shaft assy (No. 22) moves down when the lifter lever A is pushed down.
  - No: Replace lifter shaft assy or lifter boss (No. 21).
  - Yes: Loosen the screw which fastens tone arm support and adjust the clearance between stylus point and record surface to 5 – 10mm when lifter lever is in position, referring to STYLUS POINT HEIGHT of ADJUSTMENTS.

Note: When the turntable is placed in the condition of extreme low temperature for a long time, it may happen that the lifter shaft does not move smoothly. In this case, push the lifter shaft compulsorily by hand a few times.

EXPLODED VIEW

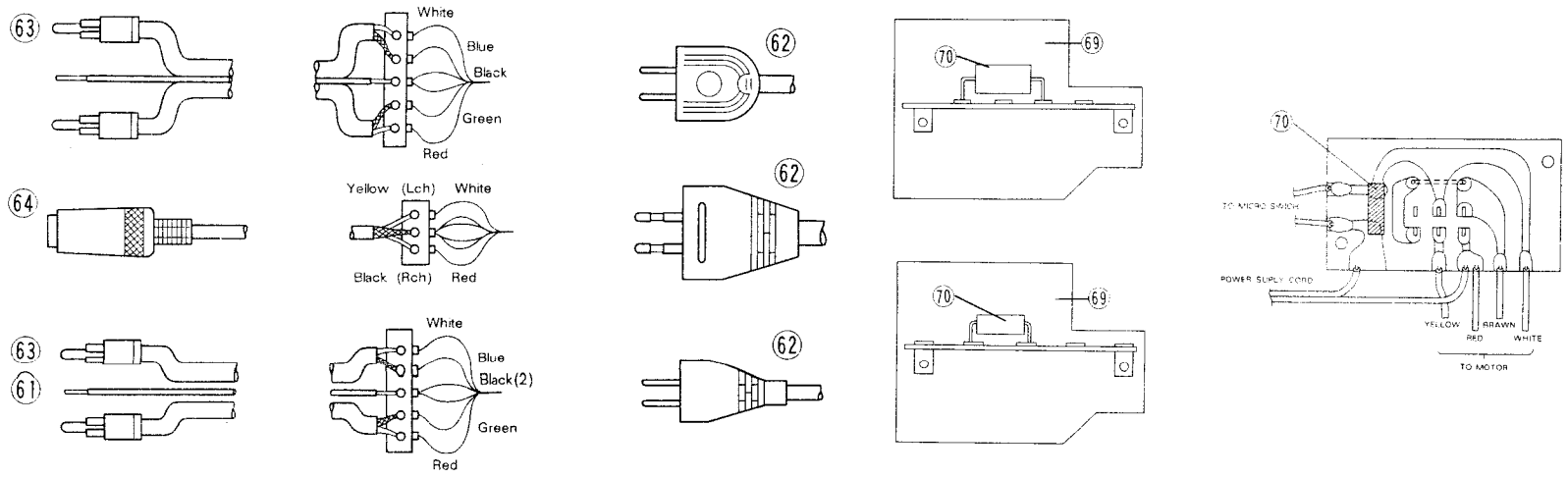
Mechanism



Model A . C

Model E

Model G



PARTS LIST

Ref. No.	Parts No.	Description	Model
1	CD 20518	Turntable platter mat	A.
1	CD 20445	Turntable platter mat	C. E. G.
2	CM 20477	Cabinet	
3	CD 30408	Tone arm base	
4	CE 44164	Anti-skating stand	
5	CD 44122	Lifter mounting plate	
6	CD 44123	Speed-change mounting plate	
7	CD 20514-1	Turntable platter	
8	CD 44204	Rubber belt	
9	CR 43933	Stud	
10	CR 43943	Adapter pin	
11	CA 20441	Sub-chassis	
12	CB 43913	Height adjusting screw	
13	CE 44021	Adjusting spring	
14	C 30416s	Turntable shaft assy.	
15	C 44025s	Lifter base assy.	
16	CA 43916	Pushing plate	
17	CB 43918	Pushing plate pin	
18	C 44026s	Operaing plate assy.	
19	CE 43917	Pushing spring	
20	C 43919s	Release assy.	
21	CD 30386	Lifter boss assy.	
22	C 43926s	Lifter shaft assy.	
23	CE 43928	Lifter spring	
24	CA 43846	Spring mounting	
25	CD 43023	Tone arm support	
26	CD 44027	Tone arm support rubber	
27	CD 30384	Tone arm rest assy.	
28	CD 44124	Switch arm	
29	CA 43931	Spring mounting	
30	CE 43932	Cushion spring	
31	CD 42438	Moltprene	
32	CD 44464	Cushion	
33	CD 44463	Cushion rubber C	
34	C 44211s	Lifter mechanism mounting plate B assy.	
35	C 44212s	Lifter lever C assy.	
36	CE 43439	Reversed spring	
37	C 30414s	Motor mounting plate assy.	
38	CA 44348	Protector plate	
39	C 44213s	Speed-change arm assy.	
40	CA 44136	Belt guide angle	
41	CA 44137	Belt guide	
42	CR 44165	Special screw B	
43	CE 44140	Link	
44	CD 43961	Motor cushion rubber	
45	CR 44343	Motor stud	
46	CD 43968	Speed-change lever A	A. C.
46	CD 43968-1	Speed-change lever A	E. G.
47	CF 30356-1	Tone arm assy.	A.
47	CF 30356	Tone arm assy.	C. E. G.
47-1		Tone arm	
47-2		Headshell	
47-3		Counterweight	
47-4		Anti-skatingweight	
48	C 30255s	Cartridge (MC-20)	E.
48	C 30245s	Cartridge (MC-5L)	G.
49	CB 43212-0	Cartridge mounting screw	E.
49	CB 43212-6	Cartridge mounting screw	G.
50	CB 43214	Cartridge mounting washer	
51	CB 43213	Cartridge mounting nut	
52	CR 42025	Tone arm cushion rubber	
53	CD 44297	Switch cover	A.
53	CD 41833	Switch cover	C. E. G.
54	CA 43950	Terminal angle A	
55	CA 43936	Shield case	
56	CA 43951	Cord mounting plate	A. C.
56	CA 43976	Cord mounting plate	E.
56	CA 44298	Cord mounting plate	G.
57	CD 41832	Cord clamping	
58	CD 44350	Nylon clamping 2N	
59	CF 30426	Motor	A. C.
59	CF 30427	Motor	E.
59	CF 30428	Motor	G.
60	CB 44187	Pulley 50Hz	E. G.
60	CB 44188	Pulley 60Hz	A.C.

Ref. No.	Parts No.	Description	Model
61	CF 43433	Grounding wire	G.
62	CF 32920	AC power supply cord	A. C.
62	CF 30332	AC power supply cord	E.
62	CF 43888	AC power supply cord	G.
63	CF 44821	Output shielded cord	A.
63	CF 43581-0	Output shielded cord	C.
63	CF 41369-4	Output shielded cord	G.
64	CF 42851	DIN plug shielded cord	E.
65	C 44215s	Printed circuit board	G.
66		Lug terminal plate IL-4P	A. C. G.
66		Lug terminal plate IL-3P	E.
67	CF 30266	Microswitch	A. C.
67	CF 30218	Microswitch	E. G.
68	CF 43364	Switch sheet	A. C. G.
68	CF 43299	Switch sheet	E.
69	CF 43367	Fiber sheet	
70	CF 43562	Condenser	A.
70	CF 43838	Condenser	C.
70	CF 42734	Condenser	E. G.
71	CA 44547	Cord clamping	A. C.
71	GS 11775	Cord clamping	G.
72		Cord stopper 4N	
73		Cord stopper 3N	E.
74	CD 41850	AC cord bushing	A. C. G.
74	CD 44421	AC cord bushing	E.
75	CD 43767-1	Shielded cord bushing	A. C.
75	CD 44573	Shielded cord bushing	E.
75	CD 44421	Shielded cord bushing	G.
76	CF 42680	6P slide switch	G.
77	CA 42681	Switch support	G.
78	CH 43521	Voltage change label	G.
79		Lug terminal plate 2L-4P	A.C.
79		Lug terminal plate 2L-3P	E.
80	CD 20448	Bottom base	
81	CK 42928	Tranleg	
82		Cabinet badge	A.
82	CK 44333	Cabinet badge	E. G.
83	CD 20446	Dust cover	
84	CD 44205	Dust cover cushion	
85	CK 44143	Dust cover nameplate	
86	CK 43202-1	Free-stop hinge	
87	CK 43203	Lock plate	
88		Cabinet badge	A.
88	CK 43582-1	Cabinet badge W	C.
88	CK 44461	Cabinet badge	E. G.
89	CD 20476	Styrol packing	
90	CD 30417	Parts box	
91	CH 44222	Tone arm packing cushion	
92	CH 44216	Parts box cover	
93		Carton box	A.
93	CK 44173-5	Carton box	C.
93	CK 44173-3	Carton box	E. G.
94	CH 44035	Turntable platter packing	
95	CH 44220	Polyethylene bag	
96	CH 40112	Polyethylene bag C.	
97	CH 41211	Polyethylene bag	
98	CH 44221	Polyethhlene bag	
99	CH 43179	Polyethylene sheet	
100		Owner's manual	
101	CD 44217	Screw driver	
102	CD 43100	45 rpm adapter	
103	CK 41930	Oil tube	
104		Rating label	A.
104	C 44628	Rating label (CSA Monogram)	C.
104	CH 44663	Rating label	E.
104	CH 44295	Rating label	G.
105	CH 44312	Serial Number label	
106	CH 44344	Clamp caution label	
107	CH 42574	Stylus change label	G.
108	CH 42065	Cycle (Hz) label	
109	CH 43885	Voltage/Frequency change caution label	G.
110	CA 42667	Metalic cord clamping	E.
111		PVC tube	
112		Tone arm mounting washer	
113		Tone arm mounting nut	

SCREWS, WASHERS AND NUTS (BD-2200)

Ref. No.	Description	Ref. No.	Description
200	⊕ Pan head screw M2.6 x 5	220	Hexagon nut with washer M5
201	⊕ Pan head screw M3 x 8	221	Spring washer 2.6ϕ
202	⊕ Pan head (Sems A) screw M3 x 6	222	E type washer 2ϕ
203	⊕ Pan head tapping screw (Class 2) 3ϕ x 5	223	E type washer 3ϕ
204	⊕ Pan head tapping screw (Class 3) 3ϕ x 6	224	E type washer 4ϕ
205	⊕ Pan head tapping screw (Class 2) 3ϕ x 8	225	Plain washer 6.5ϕ x 14ϕ x 1t
206	⊕ Pan head tapping screw (Class 2) 3ϕ x 12	226	Plain washer 3ϕ x 8ϕ x 0.5t
207	⊕ Pan head tapping screw (Class 2) 3ϕ x 16	227	Plain washer 4ϕ x 8ϕ x 1t
208	⊕ Pan head tapping screw (Class 2) 3ϕ x 18	228	Plain washer 4ϕ x 10ϕ x 0.5t
209	⊕ Pan head tapping screw (Class 1) 3ϕ x 8	229	Plain washer 4ϕ x 12ϕ x 0.8t
210	⊕ Pan head tapping screw (Class 1) 3ϕ x 12	230	Plain washer 5ϕ x 12ϕ x 1t
211	⊕ Pan head taptite M3 x 8	231	Plain washer 5ϕ x 14ϕ x 1.6t
212	⊕ Truss head screw M4 x 5	232	Plain washer 5ϕ x 12ϕ x 0.8t
213	⊕ Oval countersunk head screw M4 x 10	233	Polyethylene washer 6ϕ x 12ϕ x 0.5t
214	⊕⊖ Pan head screw M4 x 16	234	Oval lug 3ϕ
215	Slotted set screw M3 x 3	235	Tag washer
216	Hexagon nut M3	236	⊕ Pan head wood screw M3.1 x 12 (Bronze)
217	Spring washer 3ϕ	237	⊕ Pan head wood screw M3.1 x 14 (Bronze)
218	Hexagon nut with washer M4		
219	Hexagon nut M5		

CEC

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